ST. LIDETA HEALTH SCIENCE AND BUSINESS COLLEGE

DEPARTMENT OF PHARMACY

ASSESSMENT OF PATIENT SATISFACTION WITH PHARMACY SERVICES AT DEJAZMACH BALCHA HOSPITAL, ADDIS ABABA, ETHIOPIA:

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List Of Abbreviations and Acronyms

APTS - Auditable Pharmaceutical Transactions and Services

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DBH – The study site, also known as Dejazmach Balcha Memorial Hospital or Russian Red Cross Hospital.

EFDA - Ethiopian Food and Drug Authority –

EHRIG - Ethiopian Hospital Reform Implementation Guidelines

EML - Essential Medicines List

EPA - Ethiopian Pharmaceutical Association

EPHI - Ethiopian Public Health Institute

FMOH - Federal Ministry of Health (Ethiopia)

ICU - Intensive Care Unit

MSH - Management Sciences for Health MOH Ministry of Health

N/A - Not Applicable

OPD - Outpatient Department

SPSS - Statistical Package for Social Sciences

Abstract

Background: Pharmacy services are an essential component of health care. Patient satisfaction is an essential and commonly used indicator for measuring the quality of healthcare. Patients' satisfaction towards the pharmacist's services is essential to measure the level of pharmacy services offered to patients and the implementation of care in the hospital. Hence, assessment of satisfaction level is an important tool to identify gaps in pharmacy service delivery and works for its improvement.

Objective: The main objective of this study is to assess the level of patient satisfaction with pharmacy services at DBH (Russian Red Cross Hospital), Addis Ababa, Ethiopia, among both outpatients and inpatients.

Methodology: A cross-sectional study design will be conducted using structured questionnaires on patient satisfaction with pharmacy services at DBH from February 12 to 25, 2026. A total of 200 participants (98 outpatients and 102 inpatients) will be selected using stratified systematic random sampling. Data will be collected through face-to-face interviews using structured questionnaires measuring satisfaction on a 5-point Likert scale. Frequencies and percentages will be computed to summarize the data using SPSS version 26.

Budget and Work Plan: The study is scheduled from December 2025 to February 2026, covering proposal development, data collection, analysis, and report writing. The estimated budget for the study is 12,705 Birr, covering stationery, printing, photocopying, transport, and contingency.

Key terms: Dej Balcha Hospital, Patient satisfaction, Pharmacy services, Outpatients, Inpatients

Chapter One: Introduction

1.1 Background of the Study

Quality healthcare delivery is a major goal of health systems worldwide. One of the widely accepted approaches to evaluate healthcare quality is through patient satisfaction, which reflects patients' perceptions, expectations, and experiences with healthcare services. Patient satisfaction is considered an important outcome measure of healthcare quality and service performance [1].

Pharmacy services play a vital role in ensuring the rational use of medicines, improving therapeutic outcomes, and promoting patient safety [2]. Hospital pharmacies are responsible not only for dispensing medicines but also for providing patient counseling, drug information, and ensuring medication availability [3]. Effective pharmaceutical care contributes to improved medication adherence, reduced medication errors, and better health outcomes.

In Ethiopia, the Federal Ministry of Health has introduced several reforms, such as the Auditable Pharmaceutical Transactions and Services (APTS) system, to improve transparency, efficiency, and patient satisfaction in pharmacy services [4]. Despite these efforts, patient dissatisfaction related to long waiting times, unavailability of medicines, inadequate counseling, and poor pharmacy infrastructure remains a challenge in many public hospitals [5].

DBH is one of the major public hospitals in Addis Ababa, serving a large number of patients daily. Assessing patient satisfaction with pharmacy services in this hospital is essential to identify service gaps and provide evidence-based recommendations for improvement [6].

1.2 Statement of the Problem

Although pharmacy services are essential components of healthcare delivery, patients often experience dissatisfaction due to various factors such as long waiting times, drug shortages, poor communication with pharmacy professionals, and inadequate counseling [3]. These challenges may negatively affect medication adherence and overall treatment outcomes.

In Ethiopia, limited studies have been conducted to assess patient satisfaction with pharmacy services, and the available findings indicate moderate levels of satisfaction. At DBH, despite the implementation of pharmacy service reforms, there is limited documented evidence on the level of patient satisfaction and factors influencing it [7].

Without proper assessment, it is difficult for hospital administrators and pharmacy professionals to identify service gaps and implement targeted interventions [8]. Therefore, this study aims to assess patient satisfaction with pharmacy services at Dej Balcha Hospital and identify areas requiring improvement.

1.3 Significance of the Study

The findings of this study will:

- Provide baseline data on patient satisfaction with pharmacy services at Dej Balcha Hospital.
- Help identify specific areas of pharmacy service that require improvement.
- Support hospital administrators and pharmacy managers in planning quality improvement interventions.
- Serve as a reference for future researchers conducting similar studies.
- Contribute to improving patient-centered pharmaceutical care in public hospitals in Ethiopia.

Chapter Two: Literature Review

The Concept of Patient Satisfaction in Healthcare

Patient satisfaction represents a patient's evaluation of their healthcare experience against personal expectations and standards [1]. It is a multidimensional construct encompassing various aspects of service delivery including interpersonal interactions, technical competence, accessibility, efficiency, and physical environment [9]. In pharmacy services specifically, satisfaction relates to patients' perceptions of medication access, pharmacist counseling, waiting times, facility conditions, and overall service experience [6].

Satisfaction is not merely an indicator of service quality but also a determinant of health outcomes [10]. Satisfied patients demonstrate better medication adherence, higher follow-up compliance, and greater trust in healthcare providers, all of which contribute to improved treatment

outcomes [11]. In resource-limited settings like Ethiopia, where healthcare alternatives may be limited, patient satisfaction becomes particularly crucial as it affects healthcare-seeking behavior and utilization patterns [12].

Global Perspectives on Pharmacy Service Satisfaction

International research reveals varying levels of patient satisfaction with pharmacy services across different healthcare systems and cultural contexts [5]. In developed countries with established pharmaceutical care models, satisfaction rates often exceed 70-80%, with patients particularly valuing pharmacist accessibility, medication counseling, and continuity of care [13]. These systems typically benefit from adequate staffing, technological integration, standardized protocols, and comprehensive insurance coverage [14].

In contrast, developing nations frequently report lower satisfaction rates (40-60%), with common complaints including medication stockouts, prolonged waiting times, inadequate counseling, and suboptimal facility conditions [15]. The disparity highlights how systemic factors—including resource allocation, infrastructure development, and workforce capacity—fundamentally shape patient experiences and perceptions [16].

Cultural factors also significantly influence satisfaction metrics. In collectivist societies, relational aspects of care (respect, empathy, community orientation) often weigh more heavily in satisfaction assessments than technical efficiency alone. This cultural dimension necessitates context-sensitive evaluation frameworks rather than direct application of Western-developed assessment tools [17].

The Ethiopian Healthcare Context and Pharmacy Services

Ethiopia's healthcare system operates within a framework of significant resource constraints, with health expenditure representing approximately

4% of GDP, below the WHO recommended minimum. The pharmacy sector faces particular challenges including a critical shortage of pharmacists (approximately 0.3 per 10,000 population), fragmented supply chains, infrastructure limitations, and uneven distribution of services between urban and rural areas [4].

The Ethiopian Ministry of Health has implemented several reform initiatives to address these challenges, including the Ethiopian Hospital Reform Implementation Guidelines (EHRIG) and the Auditable Pharmaceutical Transactions and Services (APTS) program [18]. These initiatives aim to standardize service delivery, improve medication management, and enhance accountability. However, implementation variability across facilities and persistent systemic constraints continue to affect service quality and patient perceptions [19].

Pharmacy services in Ethiopian public hospitals typically encompass outpatient dispensing, limited inpatient services, emergency pharmacy functions, and sometimes drug information services [20]. The scope often focuses on medication supply rather than comprehensive pharmaceutical care due to workforce limitations and patient volumes exceeding 200-500 daily encounters in many facilities [21].

Key Determinants of Satisfaction in Ethiopian Pharmacy Services

- **Waiting Times and Service Efficiency**

Prolonged waiting represents perhaps the most consistently cited complaint in Ethiopian pharmacy settings [22]. Studies across multiple regions report average waiting times of 45-90 minutes, with peak periods extending to several hours [23]. Contributing factors include manual dispensing processes, inadequate staffing relative to patient volume, inefficient workflow organization, and frequent interruptions for stock verification or administrative tasks [24]. The psychological impact of extended waiting—

compounded by health anxiety and opportunity costs (lost wages, childcare challenges)—substantially colors overall satisfaction assessments [25].

- **Medication Availability and Stock Management**

Essential medicine stockouts remain endemic in many Ethiopian healthcare facilities despite national efforts to strengthen supply chains [26]. Antibiotics, antihypertensives, antidiabetics, and psychotropic medications appear particularly vulnerable to shortages [27]. When prescribed medications are unavailable, patients face difficult choices: deferring treatment, purchasing from private pharmacies at 3-10 times public sector prices, or seeking alternatives that may compromise therapeutic effectiveness [28]. This "therapeutic disruption" represents a profound source of dissatisfaction and potentially worsens health outcomes, particularly for chronic conditions requiring consistent medication access [29].

- **Pharmacist-Patient Communication**

The quality of pharmacist-patient interactions significantly influences satisfaction, yet multiple constraints limit communication effectiveness [2]. Pharmacist-to-patient ratios often exceed 1:50 during peak hours, allowing only 1-2 minutes per encounter—insufficient for meaningful counseling [30]. Language barriers (between Amharic-speaking staff and regional language speakers), health literacy variations, and cultural communication norms further complicate information exchange [31]. Studies note particular dissatisfaction regarding inadequate explanations of side effects, drug interactions, and special administration instructions—precisely the information most critical for safe medication use [32].

- **Physical Environment and Infrastructure**

Many Ethiopian hospital pharmacies operate in facilities not originally designed for pharmaceutical services, resulting in space constraints, poor

ventilation, inadequate lighting, and insufficient seating [33]. Privacy during counseling is rare, with sensitive health information often exchanged in public spaces. Basic amenities like clean water, functional restrooms, and clear signage are frequently lacking [34]. These environmental factors, while seemingly secondary to clinical functions, substantially affect patient dignity, comfort, and overall experience [35].

- **Staff Professionalism and Interpersonal Dynamics**

Patient perceptions of respect, empathy, and fairness strongly correlate with overall satisfaction [36]. Reports of perceived disrespect, discriminatory treatment based on socioeconomic status or ethnicity, and dismissive attitudes toward patient questions or concerns appear across multiple studies [37]. Conversely, even small gestures of courtesy, clear communication about delays, and demonstrated effort to address patient needs significantly enhance satisfaction despite systemic limitations [38].

- **Cost and Financial Accessibility**

While public sector medication prices are subsidized, many Ethiopians still experience substantial financial burden from healthcare costs, particularly when stockouts necessitate private sector purchases or when indirect costs (transportation, lost wages) are considered [39]. Patients' satisfaction incorporates perceptions of value—whether the service experience justifies the financial and opportunity costs incurred. This calculus becomes particularly delicate for chronic disease patients requiring regular refills and those from economically vulnerable populations [40].

Demographic and Contextual Variations in Satisfaction

Satisfaction levels and determinant priorities vary across patient subgroups [41]. Elderly patients often prioritize clear communication and assistance with medication administration over speed of service [42]. Chronically ill patients value medication availability and continuity of care more highly

than episodic care seekers [43]. Rural residents, accustomed to limited healthcare access, may report higher satisfaction with urban hospital services than urban residents with different reference points. These variations underscore the importance of dis-aggregated analysis in satisfaction assessment [44].

Educational attainment appears to correlate with both satisfaction levels and determinant prioritization. Higher-educated patients typically report lower satisfaction, possibly due to greater awareness of service standards and more critical evaluation [45]. They also place greater emphasis on information provision and shared decision-making compared to basic service access [46].

Consequences of Patient (Dis)Satisfaction

Beyond immediate patient experience, satisfaction levels influence important health system outcomes. Dissatisfied patients demonstrate lower medication adherence, reduced follow-up compliance, and increased likelihood of treatment abandonment. They may also engage in potentially harmful coping strategies like medication sharing, dose reduction, or alternative therapy use [47].

At the health system level, widespread dissatisfaction undermines public trust, reduces healthcare utilization for preventive services, and increases informal sector care-seeking [48]. This perpetuates a cycle of under-resourcing as public facilities lose patient volume and associated revenue while simultaneously facing greater pressure to contain costs [49].

Methodological Considerations in Satisfaction Assessment

The methodological approach to satisfaction assessment significantly influences findings. Interviewer-administered questionnaires, while ensuring completeness, may introduce social desirability bias, particularly in hierarchical societies where criticizing professionals is culturally

discouraged. Self-administered tools face literacy limitations in populations with varied educational backgrounds [50].

Scale design also affects results. Simple 3-point scales (satisfied/neutral/dissatisfied) often yield higher satisfaction rates than nuanced 5-point Likert scales [8]. Composite satisfaction scores that average across domains may mask significant variation, where excellence in one area (e.g., medication availability) coexists with deficiency in another (e.g., waiting time) [23].

Temporal factors matter—satisfaction measured immediately after service may differ from retrospective evaluation, as immediate frustrations (waiting time) may fade while substantive concerns (inadequate counseling) gain prominence in later reflection [22].

Chapter 3: Objectives Of the Study

3.1. General Objective

- To assess the level and determinants of patient satisfaction with outpatient pharmacy services at DBH in Addis Ababa, Ethiopia.

3.2. Specific Objectives

- To determine the overall level of patient satisfaction with pharmacy services at DBH outpatient pharmacy.
- To identify which specific service dimensions (waiting time, medication availability, pharmacist communication, physical environment, etc.) receive the highest and lowest satisfaction ratings.

- To assess the relationship between patient demographic characteristics (age, gender, education, income, residence) and satisfaction levels.
- To examine the association between service process factors (waiting time, counseling duration, prescription complexity) and patient satisfaction.
- To identify the most frequently cited reasons for dissatisfaction with pharmacy services among patients.
- To compare satisfaction levels between different patient groups (new vs. returning patients, chronic vs. acute condition patients, insured vs. out-of-pocket paying patients).
- To document patient suggestions and recommendations for improving pharmacy services at the facility.
- To provide evidence-based recommendations for enhancing pharmacy service quality and patient satisfaction at DBH.

Chapter 4: Research Methodology

4.1 Study Area and Period

The study will be conducted at DBH, also known as Dej Balcha Memorial Hospital or Russian Red Cross Hospital, located in Addis Ababa, Ethiopia. Dej Balcha Hospital was founded in 1947 and has historical ties with the Russian Red Cross, making it one of the oldest health care institutions in

Addis Ababa. The hospital operates as a private, non-profit multi sectoral healthcare institution, providing services to the general public.

The hospital is situated in the Lideta area of Addis Ababa, making it accessible to residents of the city and surrounding regions.

In 2025, it was announced that the Russian government is supporting the modernization and restoration of the hospital, which may lead to improvements in infrastructure and service delivery.

The hospital pharmacy department serves both outpatients and inpatients, dispensing medications and providing pharmaceutical care to a diverse patient population. The pharmacy operates:

Outpatient Pharmacy: Serves ambulatory patients who visit the hospital for consultations and receive prescriptions to be filled, patient comes for check-ups, people come for lab test, miner illnesses

Inpatient Pharmacy: Serves admitted patients in various wards including medical, surgical, pediatric, and gynecology/obstetrics units

The study will be conducted over a period of 13 consecutive days, from February 12 to 25, 2026. This period was selected to ensure adequate representation of patient flow across different days of the week, including weekdays and weekends, for both outpatient and inpatient pharmacy services.

4.2 Study Design

A facility-based, cross-sectional study design will be employed to asses patient satisfaction in DBH

4.3 Study Variables

4.3.1 Dependent Variable

- Patient satisfaction with pharmacy services – measured as satisfied, neutral, or dissatisfied based on responses to satisfaction-related questions using a 5-point Likert scale.

4.3.2 Independent Variables

The independent variables for this study are categorized into three main groups: socio-demographic factors, pharmacy service-related factors, and service delivery factors. These variables are hypothesized to influence patient satisfaction with pharmacy services at DBH for both outpatients and inpatients.

A. Socio-demographic Variables:

- Age, gender, residence, marital status, educational level, occupation, monthly income, patient type, payment status.

B. Pharmacy Service-Related Variables:

For Outpatients Specifically:

- Waiting time

For Inpatients Specifically:

- Medication delivery time
- Communication between pharmacy and ward staff
- Ward/Unit

Common Variables for Both Patient Groups:

- Medication availability

- Cost of medications
- Pharmacy environment
- Private counseling area
- Pharmacist's professionalism
- Pharmacist-patient communication
- Staff adequacy

C. Service Delivery Variables:

For Inpatients Specifically:

- Length of hospital stay

Common Variables for Both Patient Groups:

- Medication counseling
- Payment status
- Frequency of pharmacy visits
- Purpose of visit – for self or for others

4.4 Population

4.4.1 Source Population

The source population for this study includes all patients who receive pharmacy services at DBH during the study period, including both outpatients and inpatients

4.4.2 Study Population

The study population consists of:

- All outpatients who visit the outpatient pharmacy during the data collection period (February 12-25, 2026) and who meet the inclusion criteria
- All inpatients admitted to the hospital during the data collection period who have received pharmacy services and who meet the inclusion criteria

Based on the estimated average daily patient flow:

- Outpatient pharmacy: Approximately 20-25 patients per day
- Inpatient pharmacy: Approximately 15-20 in patients receiving medications daily across all wards

Total estimated population for the 13-day study period is approximately 450-500 patients (both inpatients and outpatients).

4.5 Inclusion and Exclusion Criteria

4.5.1 Inclusion Criteria

For Outpatients:

- Age 18 years or above, received pharmacy services at outpatient pharmacy during study period, willing to participate and provide verbal informed consent. able to communicate effectively, mentally competent

For Inpatients:

- Age 18 years or above, admitted to hospital and received medications from inpatient pharmacy, clinically stable (as determined by nurse/physician), willing to participate and provide verbal informed consent, able to communicate effectively, mentally competent

4.5.2 Exclusion Criteria

For Both Outpatients and Inpatients:

- Critically ill patients unable to respond
- Patients with hearing or speech impairments preventing communication
- Patients under 18 years of age
- Patients unable to understand the purpose of the study
- Patients who already participated (to avoid duplication)

Additional for Outpatients:

- Caretakers or relatives picking up medications for others (not the actual patient)

Additional for Inpatients:

- Patients in intensive care units (ICU)
- Patients under sedation
- Patients in isolation for infectious diseases (restricted access)

4.6 Sample Size and Sampling Technique

4.6.1 Sample Size Determination

The sample size is calculated using the single population proportion formula with the following assumptions:

p = 72.6% (0.726): The proportion of patient satisfaction taken from a previous study conducted at Dej Balcha Hospital. The formula used is:

$$n = (z^2 \times p \times (1-p)) / d^2$$

d = 5% (0.05): The desired margin of error (precision)

z = 1.96: The standard normal value at 95% confidence level

α = 0.05: Level of significance

Calculation:

$n = (1.96)^2 \times 0.726 \times (1-0.726) / (0.05)^2$

$n = (3.8416) \times 0.726 \times 0.274 / 0.0025$

$n = 3.8416 \times 0.198924 / 0.0025$

$n = 0.7643 / 0.0025$

$n = 306$

Since the source population is estimated at approximately 450-500 (which is less than 10,000), we apply the finite population correction formula. We will use N = 450 as a conservative estimate.

$$nf = n / (1 + n/N)$$

Where:

· nf = final sample size after correction

· n = 306 (initial sample size)

· N = 450 (estimated total population)

Calculation:

$nf = 306 / (1 + 306/450)$

$nf = 306 / (1 + 0.68)$

$nf = 306 / 1.68$

$nf = 182$

To account for potential non-response, incomplete questionnaires, or data collection errors, a 10% contingency is added:

Final sample size = nf + (nf × 0.1)

Final sample size = 182 + (182 × 0.1)

Final sample size = 182 + 18.2

Final sample size = 200 (rounded up)

Therefore, the total sample size for this study will be 200 participants.

Table 1:Sample distribution

Patient type	Sample size
Inpatient	102
Outpatient	98
Total	200

4.6.2 Sampling Technique

A stratified systematic random sampling technique will be employed to ensure adequate representation from both outpatient and inpatient populations at Dej Balcha Hospital.

For Outpatients (n = 98)

Systematic Random Sampling will be used:

Sampling interval (k) calculation:

- Estimated outpatient population over 13 days = 260 patients
- Desired outpatient sample = 98
- k = 260/9 = 2.65 ≈ 3

Selection process: First participant selected randomly from the first 3 patients on February 7, 2026 (using lottery method) Thereafter, every 3rd patient who completes pharmacy service and meets inclusion criteria will be approached. Daily target: 7-8 outpatients

For Inpatients (n = 102)

Stratified Random Sampling will be used:

Table 2:Stratification by ward (based on estimated patient distribution)

Ward Sample	Size
Medical ward	49
Surgical ward	29
Gynecology/ Obstetrics	20
Pediatric (parents/guardians) ward	4
Total	102

Selection process within each ward: Daily list of eligible inpatients obtained from ward nurses. patients selected using simple random sampling (lottery method) from each ward list. selected patients approached at bedside after obtaining permission from nursing staff. daily target: 7-8 inpatients across all wards

Handling Refusals and Non-response

- If selected patient refuses or is excluded, the next eligible patient is approached

- For outpatients, sampling interval maintained from that point forward
- For inpatients, next patient on ward list is selected
- Reason for refusal documented if patient is willing to provide

4.7 Data Collection Instrument

A structured, interviewer-administered questionnaire will be used to collect data from both outpatients and inpatients at DBH.

Questionnaire Development: The instrument is developed based on extensive literature review, adaptation from validated studies in Ethiopia, input from pharmacy experts, and modifications to address both inpatient and outpatient contexts.

Section I: Socio-demographic Characteristics captures age, gender, residence, marital status, educational level, occupation, monthly income, payment status, purpose of visit, frequency of pharmacy visits, patient type (inpatient/outpatient), and for inpatients only, ward/unit and length of hospital stay.

Section II: Pharmacy Setting, Medication Availability, and Cost assesses pharmacy location convenience, private counseling area availability and comfort, waiting area comfort, cleanliness of dispensary, medication availability, cost fairness, staff adequacy, and for inpatients only, timely medication delivery to wards and communication between pharmacy and ward staff.

Section III: Satisfaction with Pharmacist Approach and Communication measures pharmacist politeness, respect shown to patients, equal treatment of all patients, pharmacist availability, clarity of voice, acceptability of medication preparation time, and listening to patient questions and concerns using a 5-point Likert scale.

Section IV: Satisfaction with Medication Guidance and Counseling measures sufficiency of counseling time, emphasis on medication adherence, information on proper storage, side effects and precautions, drug-drug and drug-food interactions, clarity of medication labeling, understandability of instructions, opportunity to ask questions, and overall satisfaction using a 5-point Likert scale.

Section V: Additional Comments and Suggestions includes open-ended questions on what patients liked most, liked least, and suggestions for improvement.

Rating Scale: A 5-point Likert scale is used where 1 = Strongly Agree (Very satisfied), 2 = Agree (Satisfied), 3 = Neutral, 4 = Disagree (Dissatisfied), and 5 = Strongly Disagree (Very dissatisfied).

Language and Translation: The questionnaire is prepared in English, translated into Amharic by a professional language expert, and back-translated into English by an independent translator to ensure consistency. The final Amharic version is used for data collection to ensure all participants understand clearly.

4.8 Data Quality Control and Data Collection Processes

The questionnaire will be pre-tested on 10 patients (5 outpatients and 5 inpatients) one week before the main study to assess clarity and flow, and necessary modifications will be made. Four data collectors (two for outpatients and two for inpatients) will receive one day of training on the study objectives, questionnaire administration, and ethical procedures. For outpatients, every 3rd patient will be interviewed in a private area near the pharmacy, with a daily target of 7 to 8 participants. For inpatients, patients will be randomly selected from ward lists and interviewed at the bedside with curtains drawn for privacy, also targeting 7 to 8 participants daily. The principal investigator will supervise data collection daily and review all completed questionnaires for completeness and consistency. Each

questionnaire will be assigned a unique serial number, stored securely, and data will be double-entered to minimize errors.

4.9 Data Processing and Analysis

Data will be entered into SPSS version 26 using double-entry to minimize errors. Outpatient and inpatient data will be entered separately then merged for analysis. Data cleaning will check for missing values, outliers, and inconsistencies.

Descriptive statistics including frequencies, percentages, means, and standard deviations will be computed. Satisfaction levels will be presented as percentage satisfied (Strongly Agree + Agree), neutral, and dissatisfied (Disagree + Strongly Disagree).

Comparative analysis will be conducted between outpatients and inpatients, across different wards, and between demographic groups. Inferential statistics including chi-square tests, t-tests and binary logistic regression will be used to identify associations and predictors of satisfaction. A p-value less than 0.05 will be considered statistically significant.

Results will be presented using tables, figures, and narratives. All analyses will be performed using SPSS version 26 and Microsoft Excel 2016.

4.10. Ethical Consideration

Ethical clearance will be obtained from the Research and Ethics Committee of St. Lideta Health Science and Business College, and permission will be secured from the Medical Director, Pharmacy Department Head, and Nursing Department of DBH. Verbal informed consent will be obtained from each participant after explaining the purpose, procedures, and voluntary nature of the study, and participants will be assured they may refuse, withdraw, or skip any question without affecting their care. For inpatients, permission from the attending nurse will be obtained before approaching, and interviews will be scheduled around medical procedures and rest times,

stopping immediately if the patient becomes tired. No personal identifiers will be recorded; each questionnaire will be assigned a unique code, and all data will be stored securely in a locked cabinet and password-protected computer accessible only to the research team, with results reported in aggregate. Outpatients will be interviewed in a private area, and inpatients at the bedside with curtains drawn to ensure privacy. The study poses minimal risk and may contribute to improving future pharmacy services, and all participants will be treated with dignity, with critically ill patients and minors excluded from the study.

4.11 Operational Definition

Patient satisfaction: The degree to which a patient's health care experience, expectations, and preferences are met by the pharmacy service, measured by the proportion of respondents who respond "Strongly Agree" or "Agree" to satisfaction-related questions.

Pharmacy service: All activities related to dispensing medications, providing drug information, and offering patient counseling at DBH pharmacy.

Outpatient: A patient who receives medical consultation and pharmacy services without being admitted to the hospital.

Inpatient: A patient who is admitted to the hospital and receives medications from the inpatient pharmacy during their hospital stay.

Outpatient pharmacy: The pharmacy unit within DBH that serves ambulatory patients.

Inpatient pharmacy: The pharmacy unit that serves admitted patients in various wards.

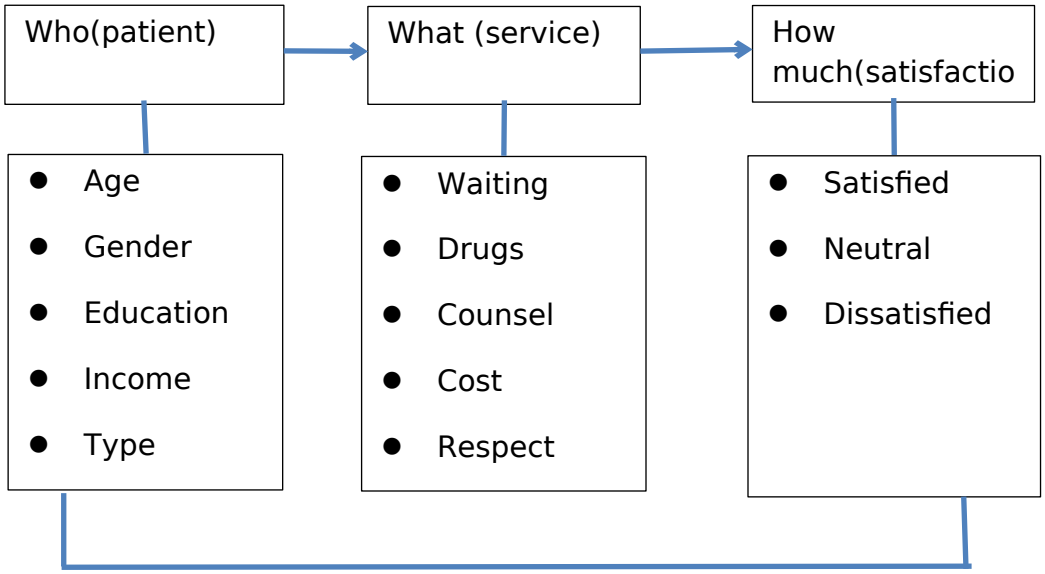
Pharmacist: A licensed health care professional who is legally qualified to dispense medications and provide pharmaceutical care.

Patient: An individual aged 18 years or above who receives pharmacy services at DBH during the study period.

Informed consent: Voluntary agreement to participate in the study after understanding the purpose, procedures, benefits, and risks.

4.12. Conceptual Frame work of the study

Figure 1: Conceptual Frame work of the study



Chapter Five: Working Plan of the Study

The study will be conducted over a period of three months from December 2026 to February 2026. The detailed work plan is presented below.

Table 3: Working Plan of the Study

No.	Activity	Responsible Body	December	January	February
1	Topic selection and proposal development Investigators	Investigators			
2	Proposal submission to advisor	Investigators			
3	Review and correction of proposal	Advisor			
4	Ethical clearance and permission letters	Investigators			
5	Pre-testing of questionnaire	Investigators			

6	Data collection	Investigators			
7	Data entry and cleaning	Investigators			
8	Data analysis	Investigators			
9	Report writing and interpretation	Investigators			
10	Submission of final report	Investigators			
11	Defense	Investigators			

Chapter Six: Budget Breakdown

The estimated budget for conducting this research study is detailed below. All costs are presented in Ethiopian Birr (ETB).

Table 4: Budget Breakdown

No.	Item description		Quantity	Unit price	Total cost
1	Printing of proposal and final report		40 pieces	25	1000
2	Photocopying of questionnaires		500 copies	5	2500
3	Pen		5	30	150
4	Note pads		2 pieces	50	100
5	Thesis binding		1copies	50	50
6	Transportation		4x13 days	100	5200

7	Internet and communication		Lump sum		500
8	Refreshments for data collectors		13days	200	2600
	Sub total				12,100
	Contingency				605
	Grand total				12,705

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Annexes

Questionnaire

Annex I: English Version Verbal Consent Form

Hello, my name is _____. I am a pharmacy student from St. Lideta Health Science and Business College. I am conducting a study entitled "Assessment of Patient Satisfaction with Pharmacy Services at Dejazmach Balcha Hospital, Addis Ababa, Ethiopia" involving both outpatients and inpatients. The purpose of this study is to assess your satisfaction with the pharmacy services you have received. Your honest feedback will help identify gaps and improve pharmaceutical care at this hospital. If you agree to participate, I will ask you questions about your experience at the pharmacy. The interview will take approximately 10-15 minutes. There are no direct benefits to you, but your responses will help improve pharmacy services for future patients. No anticipated risks or discomforts are associated with this study. Your name and personal information will NOT be recorded. Your responses will be kept completely confidential and used only for research purposes. Your participation is completely voluntary. You may refuse, skip any question, or withdraw at any time without affecting your medical care.

Do you agree to participate?

☐ Yes, I agree to participate. (Proceed with interview)

☐ No, I do not agree to participate. (Thank and end)

Interviewer Signature: _____ Date: _____

Annex II: English Version Interview Questionnaire

Serial Number: O-____ (Outpatient) / I-____ (Inpatient)

Date of Interview: _____

Interviewer Name: _____

Section I: Socio-Demographic Characteristics

Sno.	Questions	Response
101	Age	_____ years
102	Gender	☐ Male ☐ Female
103	Residence	☐ Urban ☐ Rural
104	Marital status	☐ Single ☐ Married ☐ Divorced ☐ Widowed
105	Educational level	☐ Illiterate ☐ Read and write ☐ Primary (1-8) ☐ Secondary (9-12) ☐ Diploma ☐ Degree and above
106	Occupation	☐ Government employee ☐ Private employee ☐ Merchant ☐ Farmer ☐ Student ☐ Unemployed ☐ Housewife ☐ Daily laborer ☐ Other: _____
107	Monthly income	_____ Birr
108	Patient type	☐ Outpatient ☐ Inpatient
109	Payment status	☐ Free/Insured ☐ Paying out-of-pocket
110	Purpose of visit	☐ For self ☐ For others

111	Frequency of visits	☐ First time ☐ 2-5 times ☐ More than 5 times
112	For inpatients only	Ward ☐ Medical ☐ Surgical ☐ Gynecology/Obstetrics ☐ Pediatric ☐ Other: _____
113	For inpatients only	Length of stay _____ days

Section II: Pharmacy Setting, Medication Availability and Cost

S. no	Question	Yes	No	N/A
201	Pharmacy location is convenient			
202	Private counseling area is available and comfortable			
203	Waiting area is comfortable (outpatients only)			
204	Pharmacy dispensary is clean			
205	Medications needed were available			
206	Cost of medications is fair			
207	Number of pharmacy staff is sufficient			
208	Medications delivered to ward timely (inpatients only)			

209	Communication between pharmacy and ward staff is good (inpatients only)			

Section III: Satisfaction With Pharmacist Approach and Communication

Scale: 1=Strongly Agree, 2=Agree, 3=Neutral, 4=Disagree, 5=Strongly Disagree

S.no	Questions	1	2	3	4	5
301	The pharmacist was polite and showed interest in me					
302	The pharmacist treated me with dignity and respect					
303	The pharmacist provides service equally to all patients					
304	The pharmacist was available when I needed service					
305	The pharmacist's voice was clear and easy to understand					
306	The time taken to prepare my medication was acceptable					

Section IV: Satisfaction With Medication Guidance and Counseling

No	Question	1	2	3	4	5
307	The pharmacist spent enough time counseling me					
30	The pharmacist emphasized taking					

8	medications as prescribed					
309	The pharmacist explained proper medication storage					
310	The pharmacist informed me about side effects and precautions					
311	The medication label was clear and readable					
312	Instructions were given in a language I understand					
313	The pharmacist asked if I had any questions					
314	I am satisfied with the overall pharmacy service					

Annex III: Amharic Version Verbal Consent Form (□□□□ □□□□□□ □□)

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Annex IV: Amharic Version Interview Questionnaire (□□□□ □□-□□□□ □□)

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